In the server system according to the eighth embodiment, when the request from the client is not refused in the above-mentioned stage, the same operation as described for the sixth embodiment is performed to reproduce the requested multimedia data.

As described above, according to the eighth embodiment of the invention, the server system is equipped with the recording media storage means that stores identification numbers of optical disks in which plural multimedia data are recorded, for each multimedia data, and the identification number comparing means. The identification number comparing means compares identification numbers of optical disks having multimedia data which is in the process of reproduction with identification numbers of optical disks having newly requested multimedia data. When the new request is given to the optical disk in the process of reproduction, the request is refused because reading of plural multimedia data from the same disk exceeds the performance of the optical disk drive. As already described for the prior art system, in an optical disk drive that is inferior in performance than a magnetic disk drive, when plural multimedia data are reproduced from the same disk, reading of the data delays, adversely affecting the reproduction of the multimedia data. However, since the server system according to this eighth embodiment inhibits such a reproduction, undesired interruption in reproduction is avoided.

[Embodiment 9]

A multimedia server system according to a ninth embodiment of the invention checks requests for reproduction of multimedia data from clients and refuses to accept the request exceeding the reproducibility of the system, whereby unwanted interruption in the reproduction is avoided.

In this ninth embodiment, the structure of the multimedia server system, the hardware structures of the server and the client, the structure of the client, and the structure of the library unit are identical to those according to the first embodiment of the invention.

FIG. **22** is a block diagram illustrating a server unit **100** according to the ninth embodiment of the invention. In FIG. **22**, reference numeral **117** designates a reproducible number storage means storing the number of multimedia data that can be reproduced simultaneously from each optical disk in the optical disk library unit **500**. Reference numeral **118** designates a reproduction number storage means for storing a reproduction number which is the sum of the number of multimedia data which is/are in the process of being reproduced and the number of multimedia data which is/are to be reproduced. In FIG. **22**, the same reference numerals as those shown in FIG. **16** designate the same or corresponding parts. FIG. **23**(*a*) shows a data structure in the reproduction number storage means **118**, and FIG. **23**(*b*) shows specific data of the content stored in the storage means **118**.

It is assumed that the number of multimedia data that can be read from a single optical disk is **2**, so that "2" is stored in the reproducible number storage means **117**. Three clients **700**, **701**, and **702** are connected to the server system through the network, and multimedia data "multi**03**" and "multi**04**" are already reproduced by the clients **700** and **701**, respectively. The multimedia data "multi**03**" is recorded over two optical disks, identification numbers of which are "disk#**1**" and "disk#**2**", respectively, and the multimedia data "multi**04**" is recorded over two optical disks, identification numbers of which are "disk#**2**" and "disk#**3**", respectively. The reproduction number storage means **118** stores data shown in FIG. **23**(*b*).

The operation of the server system according to this ninth embodiment will be described for a case where the client **702** requests for reproduction of multimedia data "multi**06**" which is recorded over two optical disks, identification numbers of which are "disk#**1**" and "disk#**2**".

When the request for reproduction of "multi**06**" from the client **702** is transmitted through the network to the server unit **100**, the control means **102** receives the request through the data transmitting and receiving means **103**.

The control means **102** checks the contents of the reproducible number storage means **117** and finds that the number of multimedia data that can be reproduced simultaneously from each optical disk is 2. Then, from the contents of the reproduction number storage means **118**, the control means **102** finds that the reproduction number of the optical disk "disk#**1**" is 1 and the reproduction number of the optical disk "disk#**2**" is 2, which disks have the data "multi**06**".

Next, the control means **102** adds 1 to the reproduction number of each optical disk having the data "multi**06**". As a result, the reproduction number of the optical disk "disk#**1**" becomes 2, and the reproduction number of the optical disk "disk#**2**" becomes 3. Then, the control means **102** compares the result for each optical disk with the simultaneously reproducible number of multimedia data, i.e., 2, stored in the reproducible number storage means **117**. Since the reproduction number of the optical disk "disk#**2**", i.e., 3, is larger than 2, the control means **102** refuses the request for reproduction of "multi**06**" from the client **702**.

In the server system according to this ninth embodiment, when the request from the client is not refused in the above-mentioned stage, the same operation as described for the sixth embodiment is performed to reproduce the requested multimedia data.

As described above, the multimedia server system according to this ninth embodiment is equipped with the reproducible number storage means that stores the number of multimedia data which can be reproduced simultaneously from each optical disk, and the reproduction number storage means that stores the reproduction number which is the sum of the number of multimedia data being reproduced now and the number of multimedia data to be reproduced later. When the server system receives a request for reproduction of multimedia data, 1 is added to the reproduction number of each optical disk having the requested multimedia data and judges whether the result of the addition exceeds the number of the reproducible multimedia data. When it exceeds that number of the optical disk, the request is refused. Therefore, unwanted interruption in reproduction due to reproduction exceeding the ability of the optical disk drive is avoided.

[Embodiment 10]

A tenth embodiment of the present invention relates to an apparatus for continuously reproducing multimedia data recorded over plural disks.

FIG. **24** is a block diagram illustrating a hardware structure of the reproduction apparatus according to the tenth embodiment of the invention. In FIG. **24**, a disk I/F **301**, a real-time clock **303**, a CPU **304**, a main storage unit **305**, a magnetic disk unit **307**, and an optical disk library unit **500** are identical to those shown in FIG. **2**(*a*) (**206**, **202**, **204**, **205**, **207**, and **500**, respectively). Further, an MPEG decoder **302**, a display speaker **308**, a display I/F **309**, and a keyboard or mouse **310** are identical to those shown in FIG. **2**(*b*) (**211**, **208**, **209**, and **210**, respectively).

FIG. **25** is a block diagram of the reproduction apparatus viewed from the function. In FIG. **25**, a library control means **101**, a control means **102**, an operating state storage means **104**, a reproduction order storage means **105**, a reproduction time storage means **106**, and an exchange time storage means **109** are identical to those shown in FIG. **3**